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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Jaroslav Cerny

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EXAMINER

HAYES, BRET C

ART UNIT

PAPER NUMBER

3641

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/539,567

Applicant(s)

CERNY ET AL

Examiner

Bret Hayes

Art Unit

3641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SF 298)
Paper No(s)/Mail Date 17 JUN 05
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____

DETAILED ACTION

Claim Objections

1. Claim 6 is objected to because of the following informalities: line 6, "01." is presumed to be --0.1--. Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1 – 6 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for certain range limitations, does not reasonably provide enablement for the claimed range limitations. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims.
4. Re claim 1, the joining metallic intermediate layer being made from material featuring (1) face-centered cubic crystalline lattice (FCC lattice), in particular, from nickel alloy containing maximally 98.0 wt% (2) of nickel and/or (3) from steel, is not adequately enabled.

(1) While the expression face-centered cubic (FCC) lattice is well known in the art and while nickel is well known to normally have this lattice, steel requires manipulations not disclosed within the specification to include this lattice. Because Applicants claim this feature without disclosing the steps required to manufacture such, it is the position of this office action

that this feature is well known in the art to manufacture, and, thus, not patentably distinguishing from other similar materials found in the prior art.

(2) While it is noted that a similar recitation is found in the specification at page 5, beginning at line 6, this does not enable the claim because in the illustrative examples listed, beginning at page 9, particularly, Example 1, at page 10, line 6, the nickel alloy content of nickel is disclosed as being 71.0 wt%, Example 2, page 10, lines 27 and 28, 10.6 wt%, Example 3, no nickel content is disclosed, and Example 4, page 12, line 14, 9.0 wt%. While 71.0% nickel content alloy is enabled, there is nothing to enable a claim of 98.0 wt% nickel.

(3) There is no disclosure of the material that is nickel and steel. See Examples cited above, with respect to part (2). Further, while there is no mention of steel in any of the Examples, which state instead that ‘the rest is iron and other impurities’, it is the position of this office action that because steel must include iron and at least carbon to receive its name, steel is considered adequately disclosed. However, the recitation should be --nickel or from steel-- and not “and/or” as claimed because of the lack of disclosure of the combination.

5. Claim 2 also recites the upper limit of 98.0 wt% nickel.
6. Claim 4 recites “from 8.0 wt% to 30.0 wt% manganese”, which is completely outside the disclosed boundaries. See Examples 1 – 4, for example.
7. Claim 6 recites: 0.2 wt% to 0.9 wt% carbon; 0.1 wt% to 2.0 wt% manganese; 0.2 wt% to 2.0 wt% chromium; 0.3 to 4.5 wt % nickel; 0.1 wt% to 1.0 wt% molybdenum; 0.1 wt% to 2.0 wt% silicone; and 0.01 wt% boron, none of the outer limits of which has been adequately enabled by the specification. Example 4 lists: 0.45 wt% and 0.26 wt% carbon; 0.70 wt% and 1.0 wt% manganese; 0.50 wt% and 0.37 wt% chromium; 2.0 wt % and 0.95 wt% nickel; 0.35 wt%

Art Unit: 3641

and 0.27 wt% molybdenum; 0.23 wt% and 1.19 wt% silicone; and 0.006 wt% niobium. There is no further discussion to enable the claimed ranges being broader than those disclosed or how to achieve such. Further, there is nothing disclosed with respect to boron content, but rather, niobium. As above, while it is noted that a similar recitation exists in the specification, there is nothing to enable one skilled in the art to make and/or use the invention commensurate in scope with the claims.

8. Any unspecified claim is rejected as being dependent upon a rejected base claim.

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

10. Claims 1 – 6 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

11. Re claim 1, the phrase "for example", lines 4 and 5, renders the claim indefinite because it is unclear whether the limitation(s) following the phrase are part of the claimed invention. See MPEP § 2173.05(d). Claim 1 further recites the limitation "the previous techniques" in line 7. There is insufficient antecedent basis for this limitation in the claim. Further still, regarding 'the previous techniques', it is unclear whether this recitation is intended to encompass only those recited previously, or any known techniques. The claim will be further treated on the merits *as if* 'the previous techniques' referred only to those recited in the claim.

12. Re claim 2, the phrase "such as", line 5, renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention. See MPEP § 2173.05(d).

13. Any unspecified claim is rejected as being dependent upon a rejected base claim.
14. Based upon the above rejections, a prior art rejection will be made on the merits of the metes and bounds of the claims *as best understood* only.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. Claims 1 – 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 00/55567 to Claar et al. (*Claar*).
17. Re claim 1, Claar discloses the claimed invention including multilayered steel armor **10** consisting of a front-face ballistic-resistant armor layer **11**, set forth at page 6, and a backing armor layer **13**, (same) which are fully metallurgically bonded, page 4, lines 13 – 15, by at least one joining metallic intermediate layer (3), by casting, wide-area welding techniques, using technology of explosive cladding (high-velocity impact cladding), by roll welding or by a combination of the previous techniques, (same) wherein the joining metallic intermediate layer (3) between the front-face ballistic-resistant armor layer (1) and the backing armor layer (2) is made from material featuring face-centered cubic crystalline lattice (FCC lattice)*, in particular, from nickel alloy containing maximally 98.0 wt% of nickel or from steel. *With respect to FCC lattice, the atomic structure is well known to be manipulated in the prior art, see austenite, gamma iron, for example, which normally has a FCC lattice. Further, it is well known that the

elemental metal nickel (Ni) is normally FCC. Therefore, whether explicitly disclosed by Claar as such or not, it is well known to produce steel and nickel alloys having these atomic lattices and would be an obvious preferred material to one of ordinary skill in the art at the time the invention was made, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

18. Re claim 2, Claar further discloses the claimed invention wherein the material of the joining metallic intermediate layer (3) contains between 50.0 wt% and 98.0 wt% of nickel and between 0.1 wt% and 45.0 wt% of at least one of the alloying elements including chromium, molybdenum, manganese, niobium, titanium, iron and the rest making some other accompanying elements and usual impurities, page 3, lines 1 – 3.

19. Re claim 3, Claar further discloses the claimed invention wherein the material of the joining metallic intermediate layer (3) contains between 5.0 wt% and 50.0 wt% of nickel and between 0.1 wt% and 40.0 wt% of at least one of the alloying elements including chromium, molybdenum, manganese, niobium, titanium, iron and the rest making some other accompanying elements and usual impurities, page 3, lines 1 – 3.

20. Re claim 4, Claar discloses the claimed invention to include from 0.1 wt% to 30.0 wt% chromium, nickel, vanadium, silicone and carbon, except for a wt% of manganese. Because manganese content is known to effect properties of steel, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include or exclude, depending upon desired properties, manganese, since it has been held to be within the general

skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

21. Re claim 5, Claar discloses the claimed invention except for explicitly at least one additional layer. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include at least one additional layer, since it has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8. In this case, the inclusion or exclusion of additional layers would be left to a skilled artisan to determine the benefits over the disadvantages thereof based upon the intended or desired use.

22. Re claim 6, Claar discloses the claimed invention except for the explicit recipe. Because manipulation of alloys is well known in the art, and the manipulations normally include the recited elements therein, it would have been obvious to one having ordinary skill in the art at the time the invention was made to include these elements, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416. In this case, the manufacture of steel or nickel alloys is well known and the decision to implement known elements into a metallic matrix in order to achieve an expected result does not require any inventiveness of a skilled artisan.

Conclusion

Any inquiry concerning this communication should be directed to Bret Hayes at telephone number (571) 272 – 6902 or email address bret.hayes@uspto.gov, which is preferred.

Art Unit: 3641

The examiner can normally be reached Monday through Friday from 5:30 am to 2:00 pm, Eastern Standard Time.

The Central FAX Number is **571-273-8300**.

If attempts to contact the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone, can be reached at (571) 272 – 6873.

/Bret Hayes/

Examiner, Art Unit 3641

26-Dec-07